INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

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Mr. Elvie Frey
SunnyBrook RV, Inc.
11756 C R 14
Middlebury, IN 46540

Re: 039-16779
Significant Source Modification to
Part 70 Permit No.: T038-7803-00444

Dear Mr. Frey:

SunnyBrook RV, Inc. was issued a Part 70 Operating Permit on October 12, 1998 for the operation of a stationary towable recreational vehicle manufacturing operation. An application to modify the source was received on November 13, 2002. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
Five (5) natural gas fired heaters, identified as SV 25 through SV 29 and each with a maximum heat input rate of 0.4 MMBtu/hr.

(b) Other categories with emissions below insignificant thresholds (i.e. less than 3 pound per hour VOC and less than 5 pounds per hour Particulate Matter).

(1) One (1) insulation panel gluing operation, consisting of four (4) glue stations identified as SB-064 through SB-067, cumulatively rated at 1.26 gallons of adhesive per hour, with each station utilizing an airless application system and exhausting inside the building.

(2) Two (2) manual application processes of sealants and adhesives identified as SB-069 and SB-071, for plant wide fabrication processes and exhausting inside the building.

(3) One (1) manual application of cleaning solvents identified as SB-070, for plant wide cleaning purposes and exhausting inside the building.

(4) One (1) pre-finished wood cabinet assembly and stain touch up operation, consisting of one (1) mobile stain touch up process identified as SB-068, rated at 0.024 gallons per hour, with utilizing air atomized spray application method and exhausting inside the building.

(5) Woodworking operation with Particulate emissions less than five (5) pounds per hour or twenty-five (25) pound per day each unit, consisting of one (1) Cut off saw (SB-059), one (1) 10" Chop saw (SB-060), one (1) Table saw (SB-061), one (1) Edge Sander (SB-062) and one (1) 7' x 7' Panel saw (SB-063), with each exhausting through a baghouse inside the building.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 Operating Permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Adeel Yousuf, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or at 973-575-2555, extension 3252, or in Indiana at 1-800-451-6027.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
AY / EVP
cc: File - Elkhart County
Elkhart County Health Department
Air Compliance Section Inspector - Tony Pelath
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

PART 70 SIGNIFICANT SOURCE MODIFICATION
OFFICE OF AIR QUALITY

SunnyBrook RV, Inc.
11756 CR 14
Middlebury, Indiana 46540

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

First Significant Source Modification No.: 039-16779-00444	
Issued by: Original signed Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: March 3, 2003 Expiration Date: March 3, 2008

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary towable recreational vehicle manufacturing source.

Responsible Official:	Elvie Frey
Source Address:	11756 CR 14, Middlebury, Indiana 46540
Mailing Address:	11756 CR 14, Middlebury, Indiana 46540
SIC Code:	3792
County Location:	Elkhart
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) fiberglass insulation panel gluing operation, consisting of four (4) glue stations identified as FUG26, FUG39, FUG40 and FUG44, cumulatively rated at 1.26 gallons of adhesive per hour, with each station utilizing an air atomized spray application method.

(b) Hand application of miscellaneous sealants and adhesives plant-wide, exclusive of the fiberglass insulation panel gluing operation (FUG26, FUG39, FUG40, FUG44), during product carpeting, paneling, and plastic pipe, linoleum and roof installation.

(c) Hand application of mineral spirits for cleaning purposes plant-wide.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) One (1) pre-finished wood cabinet assembly and stain touch up operation, including six (6) stain touch up stations identified as FUG45, FUG46, FUG47, FUG48, FUG49, and FUG54 cumulatively rated at 0.02 gallons of stain per hour, with each station utilizing an air atomized spray application method.

(b) Other categories with emissions below insignificant thresholds (i.e. less than 3 pound per hour VOC and less than 5 pounds per hour Particulate Matter).

(1) One (1) insulation panel gluing operation, consisting of four (4) glue stations identified as SB-064 through SB-067, cumulatively rated at 1.26 gallons of adhesive per hour, with each station utilizing an airless application system and exhausting inside the building.

(2) Two (2) manual application processes of sealants and adhesives identified as SB-069 and SB-071, for plant wide fabrication processes and exhausting inside the building.

(3) One (1) manual application of cleaning solvents identified as SB-070, for plant wide cleaning purposes and exhausting inside the building.

(4) One (1) pre-finished wood cabinet assembly and stain touch up operation, consisting of one (1) mobile stain touch up process identified as SB-068, rated at 0.024 gallons per hour, with utilizing air atomized spray application method and exhausting inside the building.

(5) Woodworking operation with Particulate emissions less than five (5) pounds per hour or twenty-five (25) pound per day each unit, consisting of one (1) Cut off saw (SB-059), one (1) 10" Chop saw (SB-060), one (1) Table saw (SB-061), one (1) Edge Sander (SB-062) and one (1) 7' x 7' Panel saw (SB-063), with each exhausting through a baghouse inside the building.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22).

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
The following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) One (1) pre-finished wood cabinet assembly and stain touch up operation, including six (6) stain touch up stations identified as FUG45, FUG46, FUG47, FUG48, FUG49, and FUG54 cumulatively rated at 0.02 gallons of stain per hour, with each station utilizing an air atomized spray application method.

(b) Hand and aerosol spray application of miscellaneous coatings to metal trailer frames and piping.

(c) Other categories with emissions below insignificant thresholds (i.e. less than 3 pound per hour VOC and less than 5 pounds per hour Particulate Matter).

(1) One (1) insulation panel gluing operation, consisting of four (4) glue stations identified as SB-064 through SB-067, cumulatively rated at 1.26 gallons of adhesive per hour, with each station utilizing an airless application system and exhausting inside the building.

(2) Two (2) manual application processes of sealants and adhesives identified as SB-069 and SB-071, for plant wide fabrication processes and exhausting inside the building.

(3) One (1) manual application of cleaning solvents identified as SB-070, for plant wide cleaning purposes and exhausting inside the building.

(4) One (1) pre-finished wood cabinet assembly and stain touch up operation, consisting of one (1) mobile stain touch up process identified as SB-068, rated at 0.024 gallons per hour, with utilizing air atomized spray application method and exhausting inside the building.

(5) Woodworking operation with Particulate emissions less than five (5) pounds per hour or twenty-five (25) pound per day each unit, consisting of one (1) Cut off saw (SB-059), one (1) 10" Chop saw (SB-060), one (1) Table saw (SB-061), one (1) Edge Sander (SB-062) and one (1) 7' x 7' Panel saw (SB-063), with each exhausting through a baghouse inside the building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Wood Furniture NESHAP [40CFR Part 63, Subpart JJ] [326 IAC 20-14]

(a) The pre-finished wood cabinet assembly and stain touch up operations (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068) are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20-14, (40 CFR 63, Subpart JJ).

(b) Pursuant to 40 CFR §63.801(a), *Definitions*, the source shall qualify as an incidental furniture manufacturer. Pursuant to 40 CFR §63.800(a), *Applicability*, the source shall not use more than 100 gallons per month of finishing materials or 100 gallons per month of adhesives in the pre-finished wood cabinet assembly and stain touch up operations (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068).

Compliance with this condition shall make all other provisions and requirements of Subpart JJ not applicable to the source.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

(a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the manual application process SB-069 which coats metal parts shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm or air dried coatings. Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

(b) Any change or modification which may increase actual VOC usage for the hand and aerosol spray application of miscellaneous coatings to metal trailer frames and piping to greater than fifteen (15) pounds per day, before add-on controls, shall require OAQ's prior approval before such change can take place.

D.2.3 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Any change or modification which may increase actual VOC usage for the pre-finished wood cabinet assembly and stain touch up operations (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068) to greater than fifteen (15) pounds per day before add-on controls, excluding the use of up to 10 gallons of coating per day for touch-up and repair, shall require OAM's prior approval before such change can take place.

D.2.4 Volatile Organic Compounds [326 IAC 8-1-6]

Any change or modification to the insulation panel gluing operation (SB-064 through SB-067) and other application processes (SB-070 and SB-071) that may increase the PTE of VOC from any of the units to more than 25 tons per year, shall obtain prior approval from IDEM, OAQ and shall be subject to the requirements of 326 IAC 8-1-6.

D.2.5 Particulate Matter (PM) [40 CFR 52 Subpart P]

Pursuant to 40 CFR 52 Subpart P, the particulate matter emissions from the surface coating facilities SB-064 through SB-068 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.6 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the woodworking operation (SB-059 through SB-063) shall not exceed 1.51 pounds per hour when operating at a process weight rate of 445 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Compliance Determination Requirements

D.2.7 Testing Requirements [326 IAC 2-7-6(1)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the applicable hazardous air pollutant limit(s) specified in 40 CFR Part 63 Subpart JJ and Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing and Subpart JJ.

D.2.8 Particulate Matter (PM)

In order to comply with Condition D.2.6, the baghouse for PM and PM10 control shall be in operation at all times that the woodworking operation is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

There are no applicable compliance monitoring conditions for this facility.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.9 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records on the total amount of finishing materials and adhesive materials used in the pre-finished wood cabinet assembly and stain touch up operations (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068). The data shall be recorded monthly. Purchase orders or facility usage records shall be maintained in order to verify the type of material and monthly usage.

(b) To document compliance with Conditions D.2.2 (b) and D.2.3, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits established in Conditions D.2.2 (b) and D.2.3 for each operation.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) The cleanup solvent usage for each day; and

(3) The total VOC usage for each day.

(c) To document compliance with condition D.2.2 (a), the Permittee shall maintain records of the VOC content of each coating material and solvent used less water. Records maintained shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limit established in condition D.2.2 (a).

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.10 Reporting Requirements

There are no specific reporting requirements for this facility.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Source Modification and Significant Permit Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	SunnyBrook RV, Inc.
Source Location:	11756 C R 14, Middlebury, IN 46540
County:	Elkhart
SIC Code:	3792
Operation Permit No.:	T039-7803-00444
Operation Permit Issuance Date:	October 12, 1998
Significant Source Modification No.:	039-16779-00444
Significant Permit Modification No.:	039-16865-00444
Permit Reviewer:	AY/EVP

The Office of Air Quality (OAQ) has reviewed a modification application from SunnyBrook RV, Inc. relating to the operation of stationary towable recreational vehicle manufacturing operation.

Insignificant Activities for the Modification

The application also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
Five (5) natural gas fired heaters, identified as SV 25 through SV 29 and each with a maximum heat input rate of 0.4 MMBtu/hr.

(b) Other categories with emissions below insignificant thresholds (i.e. less than 3 pound per hour VOC and less than 5 pounds per hour Particulate Matter).

(1) One (1) insulation panel gluing operation, consisting of four (4) glue stations identified as SB-064 through SB-067, cumulatively rated at 1.26 gallons of adhesive per hour, with each station utilizing an airless application system and exhausting inside the building.

(2) Two (2) manual application processes of sealants and adhesives identified as SB-069 and SB-071, for plant wide fabrication processes and exhausting inside the building.

(3) One (1) manual application of cleaning solvents identified as SB-070, for plant wide cleaning purposes and exhausting inside the building.

(4) One (1) pre-finished wood cabinet assembly and stain touch up operation, consisting of one (1) mobile stain touch up process identified as SB-068, rated at 0.024 gallons per hour, with utilizing air atomized spray application method and exhausting inside the building.

(5) Woodworking operation with Particulate emissions less than five (5) pounds per hour or twenty-five (25) pound per day each unit, consisting of one (1) Cut off saw (SB-059), one (1) 10" Chop saw (SB-060), one (1) Table saw (SB-061), one (1) Edge Sander (SB-062) and one (1) 7' x 7' Panel saw (SB-063), with each exhausting through a baghouse inside the building.

Existing Approvals

The source was issued a Part 70 Operating Permit (T039-7803-00444) on October 12, 1998. The source has since received the following:

(a) First Administrative Amendment No.: 039-10237, issued on April 12, 1999; and

(b) First Reopening No.: 039-13277, issued on January 28, 2002.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)*	Temperature (^{0}F)
SV-25	natural gas heater	21	0.5	30	77
SV-26	natural gas heater	21	0.5	30	77
SV-27	natural gas heater	21	0.5	30	77
SV-28	natural gas heater	21	0.5	30	77
SV-29	natural gas heater	21	0.5	30	77

* estimated

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 13, 2002. Additional information was received on December 9, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 7).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Pollutant	Potential To Emit (tons/year)
PM	13.19
PM-10	13.19
SO_2	negl.
VOC	43.40
CO	0.7
NO_x	0.9

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Hexane	6.81
Toluene	9.27
Ethylene Glycol	0.05
Xylene	5.25
Ethylbenzene	0.93
MEK	4.98
TOTAL	27.28

Justification for Modification

The increase in the potential to emit of VOC from this modification is greater than twenty-five (25) tons per year, therefore, the Title V permit is being modified through a Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4). Since this source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR 63, Subpart JJ) and a new unit being added through this modification would also be considered affected facility under NESHAP, Subpart JJ, a Significant Permit Modification will be issued and will incorporate the source modification into the Part 70 permit and give the source approval to operate the emission units.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	not reported
PM-10	1.0
SO_2	not reported
VOC	25.0
CO	1.0
NOx	1.0

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

(b) These emissions are based upon Indiana Air Emissions Summary Data for 2000.

Potential to Emit After Controls for the Modification

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units for the modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
SB-064 through SB-067	1.59	1.59	--	13.61	--	--	6.81 (single) 13.61 (total)
SB-068	0.09	0.09	--	0.08	--	--	0.05 (single/total)
SB-069	0.00	0.00	--	6.18	--	--	5.25 (single) 6.18 (total)
SB-070	0.00	0.00	--	11.60	--	--	0.00
SB-071	0.00	0.00	--	4.98	--	--	4.98 (single/total)
Miscellaneous clean-up operations	--	--	--	6.96	--	--	2.46 (single/total)
Five (5) ng Heaters	0.10	0.10	negl.	negl.	0.70	0.90	negl.
Total Emissions	1.78	1.78	negl.	43.40	0.70	0.90	9.27 (single) 27.28 (total)
PSD Significant Threshold	250	250	250	250	250	250	N/A

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Potential to Emit After Controls for the Entire Source after Modification

The table below summarizes the total limited potential to emit of the significant and insignificant emission units for the entire source.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Emissions as a result of this modification	1.78	1.78	negl.	43.40	0.70	0.90	9.27 (single) 27.28 (total)
Emissions from existing units (T039-7803-00444)	4.3	4.3	0.0	80.5	0.50	1.7	12.7 (single) 27.5 (total)
Total Emissions	6.08	6.08	negl.	123.9	1.20	2.60	19.51 (single) 54.78 (total)
PSD Major Threshold	250	250	250	250	250	250	N/A

This existing minor stationary source is still not major because the source wide VOC emissions are still less than 250 TPY after modification and the source is not one of the listed 28 source category. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) The pre-finished wood cabinet assembly and stain touch up operation (identified as SB-068) in this modification is automatically subject to the requirements of National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20-14, (40 CFR 63, Subpart JJ) as the source is currently subject to the requirements of NESHAP, Subpart JJ. This rule applicability was determined during the review of the original Title V permit (T039-7803-00444), issued on October 12, 2002. As determined in the original Title V permit, this source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for source categories, 326 IAC 20-14, (40 CFR 63, Subpart JJ), National Emission Standards for Wood Furniture Manufacturing Operations, due to its wood assembly process and because the plant is a major source of hazardous air pollutants (HAPs). A major source of HAPs is one that has the potential to emit any single HAP in amounts at, or greater than 10 tons per year or all HAPs combined in amounts at, or greater than 25 tons per year. Although this source is subject to Subpart JJ, it is considered as an *incidental furniture manufacturer* (i.e., a major source that is primarily engaged in the manufacture of products other than wood furniture or wood furniture components and that uses no more than 100 gallons per month of finishing material or adhesives in the manufacture of wood furniture or wood furniture components), since the cabinet components are pre-finished by the supplier. As such, and pursuant to 40 CFR 63.800 (Applicability), the source is not subject to any of the rule requirements other than the maintenance of purchase or usage records demonstrating that finishing material (i.e., touch-up stain) and adhesive usages are each less than 100 gallons per month for the cabinet assembly process.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This modification to an existing minor PSD source is not subject to the requirements of 326 IAC 2-2 (PSD) because the source-wide potential emissions of all regulated pollutants, including this modification, is being maintained at less than 250 tons per year and it is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, therefore, the source remains a minor PSD source.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC and is located in Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

326 IAC 2-4.1-1 applies to new or reconstructed facilities with potential emissions of any single HAP equal or greater than ten (10) tons per twelve (12) month period and potential emissions of a combination of HAPs greater than or equal to twenty-five (25) tons per twelve (12) month period. This modification is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because each of the new units has potential single HAP and total HAPs emission of less than 10 and 25 tons per year, respectively.

326 IAC 6-3-2 (Process Operations)

Pursuant to 40 CFR 52 Subpart P, the particulate matter emissions from the surface coating facilities SB-064 through SB-068 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

The particulate from the woodworking operation (SB-059 through SB-063) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

$E = 4.10*(0.225)^{0.67} = 1.51$ lbs PM/hour

Based on the above equation, particulate emissions from the woodworking operation shall be limited to 1.51 pounds per hour.

Compliance calculation:
(0.11 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 0.025 lbs PM/hr

Actual lbs Particulate/hr (0.025) is less than the allowable lbs Particulate/hr (1.51), therefore the woodworking operation will comply with the requirements of 326 IAC 6-3-2.

The baghouses shall be in operation at all times the wood working operation is in operation, in order to comply with this limit.

326 IAC 8-1-6 (General Volatile Organic Compound Reduction Requirements)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compound (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8. Each of the coating booth (SB-064 through SB-071) covered in this modification has less than 25 tons per year VOC emissions. Therefore, this rule does not apply.

326 IAC 8-2-2 (Automobile and light duty truck coating operations)

This source is not subject to this rule because the source does not coat automobiles and light duty truck bodies, hoods, fenders, cargo boxes, doors and grill opening panels.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-2-1 (Applicability) and 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), facilities constructed after July 1, 1990 located in any county, and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls shall limit the VOC content of the applied coating to 3.5 pounds of VOCs per gallon of coating less water, for air dried coatings.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the manual application process SB-069 which coats metal parts shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm or air dried coatings. Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

All other coating and application processes at the facility including SB-064 through SB-068, SB-070 and SB-071 do not coat metal, and are therefore not subject to this rule.

326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

Pursuant to 326 IAC 8-2-1 (Applicability) and 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), facilities constructed after July 1, 1990 located in any county, and with actual VOC emission of greater than fifteen (15) pounds per day before add-on controls, shall apply all coating materials, with the exception of no more than ten (10) gallons of coating per day used for touch up and repair operations, using one or more of the stated application systems.

The stain touch up operation (SB-068) of pre-finished wood cabinet assembly utilizes less than 10 gallons of stain for touch up operation and actual VOC emissions from this facility are less than 15 pounds per day. Therefore, the requirements of 326 IAC 8-2-12 do not apply to this facility.

All other coating and application processes at the facility including SB-064 through SB-067, SB-069, SB-070 and SB-071 do not coat wood furniture, and are therefore not subject to this rule.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This rule applies to sources commencing operation after October 7, 1974 and prior to January 1, 1980, located anywhere in the state, with potential solvent VOC emissions of 100 tons per year or more, and not regulated by any other provision of Article 8. This source was constructed after January 1, 1980. Therefore, this rule does not apply to this source.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements applicable to this modification.

Proposed Permit Changes

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) One (1) pre-finished wood cabinet assembly and stain touch up operation, including six (6) stain touch up stations identified as FUG45, FUG46, FUG47, FUG48, FUG49, and FUG54 cumulatively rated at 0.02 gallons of stain per hour, with each station utilizing an air atomized spray application method.

(b) Other categories with emissions below insignificant thresholds (i.e. less than 3 pound per hour VOC and less than 5 pounds per hour Particulate Matter).

(1) One (1) insulation panel gluing operation, consisting of four (4) glue stations identified as SB-064 through SB-067, cumulatively rated at 1.26 gallons of adhesive per hour, with each station utilizing an airless application system and exhausting inside the building.

(2) Two (2) manual application processes of sealants and adhesives identified as SB-069 and SB-071, for plant wide fabrication processes and exhausting inside the building.

(3) One (1) manual application of cleaning solvents identified as SB-070, for plant wide cleaning purposes and exhausting inside the building.

(4) One (1) pre-finished wood cabinet assembly and stain touch up operation, consisting of one (1) mobile stain touch up process identified as SB-068, rated at 0.024 gallons per hour, with utilizing air atomized spray application method and exhausting inside the building.

(5) Woodworking operation with Particulate emissions less than five (5) pounds per hour or twenty-five (25) pound per day each unit, consisting of one (1) Cut off saw (SB-059), one (1) 10" Chop saw (SB-060), one (1) Table saw (SB-061), one (1) Edge Sander (SB-062) and one (1) 7' x 7' Panel saw (SB-063), with each exhausting through a baghouse inside the building.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
The following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(~~3~~**a**) One (1) pre-finished wood cabinet assembly and stain touch up operation, including six (6) stain touch up stations identified as FUG45, FUG46, FUG47, FUG48, FUG49, and FUG54 cumulatively rated at 0.02 gallons of stain per hour, with each station utilizing an air atomized spray application method.

(~~4~~**b**) Hand and aerosol spray application of miscellaneous coatings to metal trailer frames and piping.

(c) Other categories with emissions below insignificant thresholds (i.e. less than 3 pound per hour VOC and less than 5 pounds per hour Particulate Matter).

(1) One (1) insulation panel gluing operation, consisting of four (4) glue stations identified as SB-064 through SB-067, cumulatively rated at 1.26 gallons of adhesive per hour, with each station utilizing an airless application system and exhausting inside the building.

(2) Two (2) manual application processes of sealants and adhesives identified as SB-069 and SB-071, for plant wide fabrication processes and exhausting inside the building.

(3) One (1) manual application of cleaning solvents identified as SB-070, for plant wide cleaning purposes and exhausting inside the building.

(4) One (1) pre-finished wood cabinet assembly and stain touch up operation, consisting of one (1) mobile stain touch up process identified as SB-068, rated at 0.024 gallons per hour, with utilizing air atomized spray application method and exhausting inside the building.

(5) Woodworking operation with Particulate emissions less than five (5) pounds per hour or twenty-five (25) pound per day each unit, consisting of one (1) Cut off saw (SB-059), one (1) 10" Chop saw (SB-060), one (1) Table saw (SB-061), one (1) Edge Sander (SB-062) and one (1) 7' x 7' Panel saw (SB-063), with each exhausting through a baghouse inside the building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Wood Furniture NESHAP [40CFR Part 63, Subpart JJ] [326 IAC 20-14]

(a) The pre-finished wood cabinet assembly and stain touch up operation**s (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068) are** subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20-14, (40 CFR 63, Subpart JJ)~~, with a compliance date of December 7, 1998~~.

(b) Pursuant to 40 CFR §63.801(a), *Definitions*, the source shall qualify as an incidental furniture manufacturer. Pursuant to 40 CFR §63.800(a), *Applicability*, the source shall not use more than 100 gallons per month of finishing materials or 100 gallons per month of adhesives in the pre-finished wood cabinet assembly and stain touch up operation**s (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068).**

Compliance with this condition shall make all other provisions and requirements of Subpart JJ not applicable to the source.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

(a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the manual application process SB-069 which coats metal parts shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm or air dried coatings. Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

(b) Any change or modification which may increase actual VOC usage for the hand and aerosol spray application of miscellaneous coatings to metal trailer frames and piping to greater than fifteen (15) pounds per day, before add-on controls, shall require OA~~M~~**Q**'s prior approval before such change can take place.

D.2.3 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Any change or modification which may increase actual VOC usage for the pre-finished wood cabinet assembly and stain touch up operation**s (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068)** to greater than fifteen (15) pounds per day before add-on controls, excluding the use of up to 10 gallons of coating per day for touch-up and repair, shall require OAM's prior approval before such change can take place.

D.2.4 Volatile Organic Compounds [326 IAC 8-1-6]

Any change or modification to the insulation panel gluing operation (SB-064 through SB-067) and other application processes (SB-070 and SB-071) that may increase the PTE of VOC from any of the units to more than 25 tons per year, shall obtain prior approval from IDEM, OAQ and shall be subject to the requirements of 326 IAC 8-1-6.

D.2.5 Particulate~~-~~Matter (PM) [40 CFR 52 Subpart P]

Pursuant to 40 CFR 52 Subpart P, the particulate matter emissions from the surface coating facilities SB-064 through SB-068 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.6 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the woodworking operation (SB-059 through SB-063) shall not exceed 1.51 pounds per hour when operating at a process weight rate of 445 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Compliance Determination Requirements

D.2.~~4~~**7** Testing Requirements [326 IAC 2-7-6(1)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the applicable hazardous air pollutant limit(s) specified in 40 CFR Part 63 Subpart JJ and Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing and Subpart JJ.

D.2.8 Particulate Matter (PM)

In order to comply with Condition D.2.6, the baghouse for PM and PM10 control shall be in operation at all times that the woodworking operation is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

There are no applicable compliance monitoring conditions for this facility.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.~~5~~**9** Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records on the total amount of finishing materials and adhesive materials used in the pre-finished wood cabinet assembly and stain touch up operation**s (identified as FUG45, FUG46, FUG47, FUG48, FUG49, FUG54, and SB-068)**. The data shall be recorded monthly. Purchase orders or facility usage records shall be maintained in order to verify the type of material and monthly usage.

(b) To document compliance with Conditions D.2.2 and D.2.3, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits established in Conditions D.2.2 and D.2.3 for each operation.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each day; and

(4) The total VOC usage for each day.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.~~6~~**10** Reporting Requirements

There are no specific reporting requirements for this facility.

Conclusion

The operation of this stationary towable recreational vehicle manufacturing source shall be subject to the conditions of the attached proposed Significant Source Modification No. 039-16779-00444 and Significant Permit Modification No. 039-16865-00444.

Appendix A: Emission Calculations

Company Name: SunnyBrook RV, Inc.
Address City IN Zip: 11756 C R 14, Middlebury, Indiana 46540
Permit No..: 039-16779
Plant ID: 039-00444
Reviewer: Adeel Yousuf / EVP

Uncontrolled Potential Emissions (tons/year)

	Emissions Generating Activity				
Pollutant	Surface Coating	Wood Working	Clean-up Operations	Natural Gas Combustion	**TOTAL**
PM	1.68	11.41	0.00	0.10	13.19
PM10	1.68	11.41	0.00	0.10	13.19
SO2	0.00	0.00	0.00	negl.	0.00
NOx	0.00	0.00	0.00	0.90	0.90
VOC	36.44	0.00	6.96	negl.	43.40
CO	0.00	0.00	0.00	0.70	0.70
total HAPs	24.82	0.00	2.46	negl.	27.28
worst case single HAP	(Toluene) 6.81	0.00	(Toluene) 2.46	negl.	(Toluene) 9.27

Total emissions based on rated capacity at 8,760 hours/year.

Controlled Potential Emissions (tons/year)

	Emissions Generating Activity				
Pollutant	Surface Coating	Wood Working	Clean-up Operations	Natural Gas Combustion	**TOTAL**
PM	1.68	0.11	0.00	0.10	1.89
PM10	1.68	0.11	0.00	0.10	1.89
SO2	0.00	0.00	0.00	negl.	0.00
NOx	0.00	0.00	0.00	0.90	0.90
VOC	36.44	0.00	6.96	negl.	43.40
CO	0.00	0.00	0.00	0.70	0.70
total HAPs	24.82	0.00	2.46	negl.	27.28
worst case single HAP	(Toluene) 6.81	0.00	(Toluene) 2.46	negl.	(Toluene) 9.27

Total emissions based on rated capacity at 8,760 hours/year, after control.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: SunnyBrook RV, Inc.
Address City IN Zip: 11756 C R 14, Middlebury, Indiana 46540
CP: 039-16779
Plt ID: 039-00444
Reviewer: Adeel Yousuf / EVP

Booth ID	Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
SB-064 thru 067	Superbond 2001 M	8.3	30.00%	0.0%	30.0%	0.0%	70.00%	0.78000	1.600	2.49	2.49	3.11	74.58	13.61	1.59	3.56	95%
SB-068	WB-202	9.7	75.00%	66.9%	8.1%	0.0%	25.00%	0.01500	1.600	0.79	0.79	0.02	0.45	0.08	0.09	3.14	65%
SB-69	Sekaflex	10.6	4.40%	0.0%	4.4%	0.0%	95.60%	1.89000	1.600	0.47	0.47	1.41	33.85	6.18	0.00	0.49	100%
SB-70	Mineral Spirits	6.62	100.00%	0.0%	100.0%	0.0%	0.00%	0.25000	1.600	6.62	6.62	2.65	63.55	11.60	0.00	ERR	100%
SB-71	Pipe Adhesive	7.10	80.00%	0.0%	80.0%	0.0%	21.00%	0.12500	1.600	5.68	5.68	1.14	27.26	4.98	0.00	27.05	100%
State Potential Emissions				**Add worst case coating to all solvents**								**8.32**	**199.70**	**36.44**	**1.68**		

	Controlled Potential Emissions						
		Material Usage Limitation	Control Efficiency: VOC	Control Efficiency: PM	Controlled VOC lbs per Hour	Controlled VOC lbs per Day	Controlled VOC tons per Year	Controlled PM tons/yr
Total Controlled Potential Emissions:		100.00%	0.00%	0.00%	**8.32**	**199.70**	**36.44**	**1.68**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Sum of worst case coatings in each booth

Appendix A: Emissions Calculations
Particulater Matter (PM) Emissions from Woodworking Operations

Company Name: SunnyBrook RV, Inc.
Address City IN Zip: 11756 C R 14, Middlebury, Indiana 46540
CP#: 039-16779
Plt ID: 039-00444
Permit Reviewer: Adeel Yousuf / EVP

Particulate Matter Emissions from SB-059

PM/PM10:	0.0005	gr/acf outlet x	130	acf/min x	60	min/hr /	7000	gr/lb x	4.38 ton/yr / lb/hr / 0.01 (1- control effeciency) = **0.24 tons/yr (uncontrolled)**
	where the baghouse control efficiency is listed at		99.00%						**0.00 tons/yr (controlled)**

Particulate Matter Emissions from SB-060

PM/PM10:	0.0005	gr/acf outlet x	130	acf/min x	60	min/hr /	7000	gr/lb x	4.38 ton/yr / lb/hr / 0.01 (1- control effeciency) = **0.24 tons/yr (uncontrolled)**
	where the baghouse control efficiency is listed at		99.00%						**0.00 tons/yr (controlled)**

Particulate Matter Emissions from SB-061

PM/PM10:	0.0005	gr/acf outlet x	2400	acf/min x	60	min/hr /	7000	gr/lb x	4.38 ton/yr / lb/hr / 0.01 (1- control effeciency) = **4.51 tons/yr (uncontrolled)**
	where the baghouse control efficiency is listed at		99.00%						**0.05 tons/yr (controlled)**

Particulate Matter Emissions from SB-062

PM/PM10:	0.0005	gr/acf outlet x	1900	acf/min x	60	min/hr /	7000	gr/lb x	4.38 ton/yr / lb/hr / 0.01 (1- control effeciency) = **3.57 tons/yr (uncontrolled)**
	where the baghouse control efficiency is listed at		99.00%						**0.04 tons/yr (controlled)**

Particulate Matter Emissions from SB-063

PM/PM10:	0.0004	gr/acf outlet x	1900	acf/min x	60	min/hr /	7000	gr/lb x	4.38 ton/yr / lb/hr / 0.01 (1- control effeciency) = **2.85 tons/yr (uncontrolled)**
	where the baghouse control efficiency is listed at		99.00%						**0.03 tons/yr (controlled)**

Total PM/PM10: **11.41 tons/yr (uncontrolled)**
0.11 tons/yr (controlled)

Methodology

Uncontrolled PM/PM10 = grain loading (gr/acf outlet) * Flow rate (acfm) * (60 min/hr) * (1 lb/7000 gr) * 4.38 (tons/yr / lb/hr) / (1- control effeciency %)

HAP Emission Calculations

Company Name: SunnyBrook RV, Inc.
Address City IN Zip: 11756 C R 14, Middlebury, Indiana 46540
CP: 039-16779
Plt ID: 039-00444
Reviewer: Adeel Yousuf / EVP

Material	Booth ID	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % Toluene	Weight % Ethylene Glycol	Weight % Xylene	Weight % Ethyl Benzene	Weight % MEK	Hexane Emissions (ton/yr)	Toluene Emissions (ton/yr)	Ethylene Glycol Emissions (ton/yr)	Xylene Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	MEK Emissions (ton/yr)	Total
Superbond 2001 M	SB-064 thru 067	8.3	0.78000	1.600	15.00%	15.00%	0.00%	0.00%	0.00%	0.00%	6.81	6.81	0.00	0.00	0.00	0.00	13.61
WB-202	SB-068	9.7	0.01500	1.600	0.00%	0.00%	5.10%	0.00%	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00	0.05
Sekaflex	SB-69	10.6	1.89000	1.600	0.00%	0.00%	0.00%	3.74%	0.66%	0.00%	0.00	0.00	0.00	5.25	0.93	0.00	6.18
Mineral Spirits	SB-70	6.62	0.25000	1.600	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pipe Adhesive	SB-71	7.10	0.12500	1.600	0.00%	0.00%	0.00%	0.00%	0.00%	80.00%	0.00	0.00	0.00	0.00	0.00	4.98	4.98
											6.81	6.81	0.05	5.25	0.93	4.98	24.82

Total Uncontrolled Potential Emissions

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emission Calculations
Insignificant Activities

Company Name: SunnyBrook RV, Inc.
Address City IN Zip: 11756 C R 14, Middlebury, Indiana 46540
Permit No.: 039-16779
Plant ID: 039-00444
Reviewer: Adeel Yousuf / EVP

Miscellaneous clean-up operations (Fugitive Emissions)

VOC Emissions

Pollutant	Chemical	Maximum Usage (lb/yr)	Weight Percent VOC (%)	Potential emission rate (TPY)
VOC	Permagrip 670	10950.000	82.00%	4.490
VOC	Pemco Sealant	13315.200	37.00%	2.463
VOC	ReactorSeal TRU-BLU	53.793	20.00%	0.005
			Total VOC	**6.958**

HAPs Emissions

Pollutant	Chemical	Maximum Usage (lb/yr)	Weight Percent (%)	Potential emission rate per wet machine (TPY)
Toluene	Pemco Sealant	13315.000	37.00%	2.463
			Total HAPs	**2.463**

METHODOLOGY

Emissions are based on material balance. Maximum material usage and VOC contents are provided by the source; 100% emission is assumed.

Potential Emissions, lbs/hr = Max. Rate (lb/hr) x VOC content (%)

Potential Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: SunnyBrook RV, Inc.
Address City IN Zip: 11756 C R 14, Middlebury, Indiana 46540
CP: 039-16779
Plt ID: 039-00444
Reviewer: Adeel Yousuf / EVP

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.0	17.5

Five (5) natural gas fired heaters, each with heat input rating of 0.4 MMBtu/hr.

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.1	0.0	0.9	0.0	0.7

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: SunnyBrook RV, Inc.
Address City IN Zip: 11756 C R 14, Middlebury, Indiana 46540
CP: 039-16779
Plt ID: 039-00444
Reviewer: Adeel Yousuf / EVP

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.840E-05	1.051E-05	6.570E-04	1.577E-02	2.978E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	4.380E-06	9.636E-06	1.226E-05	3.329E-06	1.840E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.